

**CLAIMS:**

1. A statically-stabilized bascule bridge having a leaf with a span portion adapted to extend in a forward direction from a trunnion pivot over a waterway in a bridge closed position and a tail portion extending in a rearward direction from the trunnion pivot to extend under a roadway approach structure, said bridge including a static stabilizer comprising:

a housing for mounting in juxtaposition between said leaf tail portion and said roadway approach structure when said bridge is in its closed position;

a shock absorbing assembly carried in said housing;

a shoe cap carried by said housing and operably connected to said shock absorbing assembly to effect resilient displacement thereof when said shoe cap is urged toward said housing by said leaf tail portion in its bridge closed position.

2. The bascule bridge according to Claim 1 including adjustable means carried in said housing for displacing said shoe cap relative to said housing and thereby setting a predetermined operating clearance between said shoe cap and said leaf tail portion.

3. The bascule bridge according to Claim 2 wherein said adjustable means includes matingly engaged threads between said housing and said shock absorber assembly cooperable upon shoe cap rotation to effect said shoe cap displacement.

4. The bascule bridge according to Claim 3 including surface structure carried by said shoe cap cooperable with an elongate bar for effecting said cap rotation relative to said housing.

5. The bascule bridge according to Claim 3 including at least one locking pin carried by said housing for releasably laterally engaging said shock absorber assembly to secure said shoe cap in a selected adjusted position.

6. The bascule bridge according to Claim 5 wherein said shock absorber assembly includes a shock absorber carrier having threads providing said threaded engagement with said housing and having at least one elongate slot for operably receiving said locking pin to preclude rotation of said shoe cap after said selected adjusted position has been effected.

7. The bascule bridge according to Claim 1 wherein said shock absorbing assembly includes a carrier contained in said housing, an elastic energy absorber assembly contained in said carrier, and a tie rod connecting said carrier to said cap shoe while enabling said carrier to be displaced relative to said housing for effecting clearance adjustments between said cap shoe and its juxtaposed bridge structure.

8. The bascule bridge according to Claim 7 wherein said elastic energy absorbing assembly includes a stack of Bellville washers with said tie rod extending centrally through said stack, and including means connecting said tie rod at one end to said shoe cap and means connecting said tie rod at its other end to said carrier.

9. The bascule bridge according to Claim 1 including another static stabilizer of like construction to said first-mentioned static stabilizer for releasably engaging said leaf span portion forward of said trunnion pivot when said leaf is in said bridge closed position.

10. The bascule bridge according to Claim 1 including a retractable tail lock, and including another static stabilizer of like construction to said first-mentioned static

stabilizer for releasably engaging said tail lock when in its extended locking position when said leaf in its bridge closed position.

11. A static stabilizer for use with a bridge span structure to ameliorate shock loading on adjacent bridge span supporting structure, comprising:

a housing having a base and a wall extending upwardly from the base to form a chamber;

a plurality of spring washers mounded in said chamber;

a shoe cap extending across said housing for engaging said spring washers therein; and

a tie rod interconnecting said shoe cap and said housing below said spring washers;

whereby downward displacement of the shoe cap compresses the spring washers therein.

12. A static stabilizer according to Claim 11 including an upwardly-open cylindrical carrier moveably mounted in said housing chamber for containing said spring washers therein, and threaded means disposed between said housing wall and said carrier for rotatably mounting said carrier in said housing and operable upon rotation of said cap shoe relative to said housing base to enable the overall height of the stabilizer to be adjusted.

13. The static stabilizer according to Claim 12 wherein said housing wall mounts at least one locking pin moveable laterally toward and away from said carrier, and said carrier has an elongate slot confronting said locking pin for receiving said locking pin and precluding rotation of said carrier relative to said housing when said shoe cap is in a selected height-adjusted position.

14. The static stabilizer according to Claim 13 when said shoe cap has an arcuate bearing surface providing a line contact portion, and said locking pin located in said housing wall locks said shoe cap only in preselected positions relative to said base.

15. The static stabilizer according to Claim 13 wherein said shoe cap has a downwardly opening recess juxtaposed with said carrier opening to provide a chamber for receiving said spring washers, and said shoe cap has an outwardly-extending peripheral flange overlying a peripheral end of said housing wall with a gap therebetween, and including a skirt depending from said shoe cap peripheral flange across said gap for limiting ingress of foreign matter into said housing.

16. The static stabilizer according to Claim 13 wherein said shoe cap has an outer periphery and including means on said periphery for releasably receiving an elongate bar for rotating said cap relative to said housing and thereby effecting said height adjustment of said static stabilizer.

17. The static stabilizer according to Claim 13 wherein said shoe cap has a depending boss engaging said spring washers and a tie rod portion depending through the spring washers and connected to the housing therebelow.

18. The static stabilizer according to Claim 12 including a bascule bridge leaf having a forward portion extending over a support pier and having a rearward portion extending underneath an approach roadway structure, and when said static stabilizer is juxtaposed with at least one of said leaf portions.

19. The static stabilizer according to Claim 18 wherein said bascule bridge has a retractable tail lock in its rearward leaf portion, and when said static stabilizer is juxtaposed with said leaf portion to engage said tail lock when in its extended position.

20. The static stabilizer according to Claim 11 including a fixed span bridge having an end portion overlying a bridge pier and wherein said static stabilizer is juxtaposed between said end portion and said pier.